Remarks:

Reconsideration of the Application in view of the above amendments and following remarks is requested. Claims 15-22 and 55-60 are now in the case. Claims 15 and 55 have been amended. Claims 1-14, 23-54, and 61-73 have been canceled.

Applicants assert that the present amendments add no new matter to the Application as originally filed.

The paragraph beginning on page 166, line 15 has been amended to include the ATCC Patent Deposit Designation Numbers for the hybridomas recited therein. Basis for the amendment to add the ATCC Patent Deposit Designation Numbers can be found in the attached ATCC Deposit Receipts.

Basis for the amendment to Claims 15 can be found in the Application as originally filed, see e.g., page 2, lines 10-12.

Applicants reserve the right to prosecute claims to cancelled subject matter in one or more continuing applications.

I. Objections to Claims (*regarding part 2. of the Office Action mailed 05/07/2007, "the Present Office Action"*)

a. Regarding Claims 8-13

The Examiner has maintained the objection to Claims 8-13. The Examiner has alleged that Claim 8, as previously amended, incorporates non-elected subject matter from Claim 1. Applicants respectfully disagree; however, to simplify matters under consideration and to expedite prosecution and allowance, Applicants have cancelled Claims 8-13. Therefore, the present objection is moot as applied thereto and Applicants respectfully request that the objection be properly withdrawn.

b. Regarding Claims 56 and 57

The Examiner has maintained the objection to Claims 56 and 57. Claims 56 and 57 depend to Claim 55, and the Examiner has alleged that Claim 55 contains non-elected subject matter. To simplify matters under consideration and to expedite prosecution and allowance, Applicants have canceled the subject matter in Claim 55 drawn to the non-elected species. Therefore, the present objection is moot as applied thereto and Applicants respectfully request that the objection be properly withdrawn.

Applicants reserve the right to prosecute claims to the canceled species in one or more divisional Applications under 37 CFR 1.78(d)(1)(ii)(A) as recited in the Federal Register Vol. 72, No. 161, page 46732, Tuesday, August 21, 2007.

c. Regarding Claims 61-73

The Examiner has objected to Claims 61-73 as having incorrect status identifiers. Applicants have canceled Claims 61-73. Therefore, the present objection is moot as applied thereto and Applicants respectfully request that the objection be properly withdrawn.

II. Rejections under 35 U.S.C. §103(a) (*regarding parts 3.-5. of the Present Office Action*)

a. Regarding the 35 U.S.C. §103(a) rejection under Busfield in view of Hopp et al. and in further view of Lok et al.

The Examiner has maintained the rejection of Claims 8-10, 12, 13, 15-18, 20, 21, 55-57, and 59 under 35 U.S.C. §103(a) as unpatentable over US Patent Application No. 02-0164689 (Busfield) in view of Hopp et al. (PNAS 78: 3824-3828, 1981) and in further view of Lok et al. (US Patent No. 5,965,704).

Applicants respectfully traverse. To show *prima facie* obviousness "the prior art reference (or references when combined) must teach or suggest all the claim limitations." See MPEP 706.02(k); MPEP 2143; and MPEP 2143.03 *citing In re Royka*, 490 F.2d 981 (CCPA 1974).

The Claims incorporate the element that the antibody should reduce or neutralize the activity of either IL-20 (SEQ ID NO:8) or IL-22 (SEQ ID NO:6). This element is not disclosed in the prior art references; and therefore, the Examiner has failed to show that the Claims are *prima facie* obvious.

Applicants have previously presented the above argument; however, the Examiner has alleged that the element is inherently present in the prior art references.

Applicants respectfully traverse. To establish inherency, the Examiner must show that the missing element is **necessarily** present in the prior art. See MPEP 2112. The element that the antibody should reduce or neutralize the pro-inflammatory activity of either IL-20 (SEQ ID NO:8) or IL-22 (SEQ ID NO:6), **is not necessarily present in the prior art references**. The prior art references describe an antibody that specifically

binds to IL-22RA; however, an antibody that specifically binds to an antigen does not necessarily also reduce or neutralize the activity of the antigen.

It is well understood in the art that an antibody that specifically binds to an antigen does not necessarily also neutralize or reduce the activity of the antigen. This is because an antigen commonly has multiple epitopic regions where an antibody may bind; and if an antibody binds to an epitope that is outside or unrelated to a specific ligand-receptor binding domain, the antibody will specifically bind to the antigen, but it will not neutralize or reduce the activity associated with the specific ligand-receptor binding.

To further support the assertion that an antibody that specifically binds to IL-22RA does not necessarily also neutralize IL-22RA cell proliferative activity, Applicants have attached a 37 CFR 1.132 affidavit of WenFeng Xu. The Xu affidavit affirms that "**It is well understood in the art that an antibody that specifically binds to an antigen does not necessarily also neutralize or reduce the activity of the antigen**". See point 4 of the attached Xu Declaration Under 37 CFR §1.132. Moreover, the Xu affidavit presents a sampling of the assay results from Example 28, Dr. Xu notes that

> **Not all antibodies that specifically bind to IL-22RA necessarily neutralize IL-22RA activity. For example... several antibodies that specifically bind to IL-22RA do not significantly reduce the IL-22RA activity of up-regulating cell proliferation via binding to IL-22...**

See point 5 and 6 of the attached Xu Declaration Under 37 CFR §1.132 (emphasis added).

In light of the arguments presented above and the attached Xu affidavit, Applicants respectfully request that the Examiner properly withdraw the present rejection.

b. Regarding the 35 U.S.C. §103(a) rejection under Busfield or Lok et al. in view of Hopp et al. and in further view of Chen et al.

The Examiner has maintained the rejection of Claims 11, 14, 19, 22, 58 and 60 under 35 U.S.C. §103(a) as being unpatentable over Busfield (US 2002/0164689A1) in view of Hopp et al. (Hopp, TP and Woods, KR, PNAS USA 78:3824-28, 1981) and in further view of Lok et al. (US Patent No. 5,965,702) and Chen et al. (Chen AM, Scott, MD, BioDrugs, 2001; 15(12):833-47).

Applicants respectfully traverse. The MPEP instructs that

> If an independent claim is nonobvious under 35 U.S.C. 103, then any claim dependent therefrom is nonobvious.

See MPEP 2143.03 *citing In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). In the arguments presented above, Applicants have shown that independent Claims 15 and 55, are non-obvious over either Busfield or Lok et al. in view of Hopp et al. Accordingly, the Claims dependent therefrom (including Claims 19, 22, 58, and 60) are likewise nonobvious over either Busfield or Lok et al. in view of Hopp et al.

Therefore, Applicants respectfully request that the Examiner withdraw the current rejection of Claims 19, 22, 58, and 60, based on Busfield or Lok et al. in view of Hopp et al. and in further view of Chen et al.

III. Double Patenting

The Examiner has provisionally rejected Claims 8-22 and 55-60 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 8-22 and 55-60 of copending Application No. 11/356,499.

Upon an indication of otherwise allowable subject matter and in the event that these rejections are maintained for the pending Claims, Applicants will provide an appropriate response.

IV. Conclusion

On the basis of the above amendments and remarks, Applicants believe that each rejection has been addressed and overcome. Reconsideration of the application and its allowance are requested. If for any reason the Examiner feels that a telephone conference would expedite prosecution of the application, the Examiner is invited to telephone the undersigned at (206) 434-3410.

It is believed that no other fee is due. However, in the event that another fee is due, please charge any fee or credit any overpayment to Deposit Account No. 26-0290.

Respectfully Submitted,

Aaron A. Schützer
Registration No. 60,106

Enclosures:
Declaration Under 37 CFR §1.132
4 ATCC Deposit Receipts

Customer No. 10117
ZymoGenetics, Inc

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants	:	Wenfeng Xu, Wayne Kindsvogel, Yasmin A. Chandrasekher, Stacey R. Dillon, Joyce M. Lehner, Anthony W. Siadak, Pallavur V. Sivakumar, Margaret D. Moore
Serial No.	:	10/807,837
Filed	:	March 24, 2004
For	:	ANTI-IL-22RA ANTIBODIES AND BINDING PARTNERS AND METHODS OF USING IN INFLAMMATION
Confirmation No.	:	4419
Examiner	:	Stoica, E. G.
Art Unit	:	1647
Docket No.	:	03-02
Date	:	October 9, 2007

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 CFR §1.132

Sir:

I, WenFeng Xu, declare and say as follows:

1. I am a Principal Scientist in the Molecular and Cell-Based Discovery department at ZymoGenetics, Inc.

2. I am a named inventor in the above referenced Application, and I have read and understand the Specification and Claims of the above referenced Application. For example, I am familiar with the protocol and results of Example 28 of the above referenced Application.

3. I have read and understand the Office Action mailed May 7, 2007 (the "Present Office Action"). For Example, I understand that the Examiner has alleged the following: the prior art references (US Patent Application No. 02-0164689 (Busfield); Hopp et al. (PNAS 78: 3824-3828, 1981); and Lok et al. (US Patent No. 5,965,704) teach

an antibody that specifically binds to IL-22RA and *inherently* teach an antibody that reduces IL-22RA activity (e.g., IL-20 or IL-22 activity).

4. I disagree with the allegation that an antibody that specifically binds to IL-22RA necessarily reduces IL-22RA activity. **It is well understood in the art that an antibody that specifically binds to an antigen does not necessarily also neutralize or reduce the activity of the antigen.** This is because an antigen commonly has multiple epitopic regions where an antibody may bind; and if an antibody binds to an epitope that is outside or unrelated to a specific ligand-receptor binding domain, the antibody will specifically bind to the antigen, but it will not neutralize or reduce the activity associated with the specific ligand-receptor binding.

5. Example 28 of the above referenced Application describes a cell based neutralization assay. The factor-dependent pre-B cell line BaF3 co-transfected with IL-22RA and IL-20RB (pDIRS1) (BAF/IL-22RA/IL-20RB cells) was used to assess neutralization potential of anti-IL-22RA antibodies by antagonizing IL-20 on the IL-22RA/IL-20RB receptor. Similarly, BaF3 co-transfected with IL-22RA and IL-10RB (CRF2-4) (BAF/IL-22RA/CRF2-4 cells) was used to assess the neutralization potential of anti-IL-22RA antibodies by antagonizing IL-22 on the IL-22RA/IL10RB receptor. Proliferation in the presence of IL-20 or IL22 on its respective receptor-expressing cell line, and inhibition of such proliferation in the presence of the antagonist antibodies, was assessed using an Alamar blue assay. Inhibition of proliferation on these cells is indicative of neutralizing activity in this assay. This assay was performed to identify which IL-22RA antibodies specifically bind to IL-22RA **and** neutralize IL-22RA activity.

6. I attach herewith a table showing a sampling of the assay results from Example 28. Each line of the table represents a monoclonal antibody clone. 11D6, 2G5, and 2E4 are negative controls, they represent antibodies that do not specifically bind to IL-22RA and that do not reduce the IL-22RA activity of up-regulating cell proliferation via binding to IL-22.

Not all antibodies that specifically bind to IL-22RA necessarily neutralize IL-22RA activity. For example, note that several antibodies that specifically bind to IL-22RA do not reduce the IL-22RA the activity of up-regulating cell proliferation via binding to IL-22 (e.g. see clones 27, 84, and 85).

7. I further declare that statements made herein of my knowledge are true, and that all statements made on information are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Dated: 10-09-2007

By: _____

ZymoGenetics, Inc.
WenFeng Xu, Ph.D.
Principal Scientist
Molecular and Cell-Based Discovery

Cell-based neutralization assay to test for anti-IL-22RA inhibition of IL-22

mAb clone	Binding to BaF3/IL22RA/IL10RB by FACS	Blocking IL22 acitivity in BaF3/IL22RA/IL10RB proliferaton assay
11	+	+
12	+	+
18	+	+
32	+	+
43	+	+
59	+	+
64	+	+
72	+	+
73	+	+
110	+	+
111	+	+
4	+	-
6	+	-
27	+	-
35	+	-
41	+	-
67	+	-
74	+	-
84	+	-
85	+	-
89	+	-
107	+	-
109	+	-
114	+	-
62	-	-
90	-	-
101	-	-
128	-	-
2E4	-	-
2G5	-	-
11D6	-	-

#124

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BUDAPEST TREATY ON THE INTERNATIONAL RECOGNITION OF THE DEPOSIT OF MICROORGANISMS FOR THE PURPOSES OF PATENT PROCEDURE

INTERNATIONAL FORM

RECEIPT IN THE CASE OF AN ORIGINAL DEPOSIT ISSUED PURSUANT TO RULE 7.3 AND VIABILITY STATEMENT ISSUED PURSUANT TO RULE 10.

To: (Name and Address of Depositor or Attorney)

ZymoGenetics, Inc.
Attn: Elin Florkiewicz
1201 Eastlake Avenue East
Seattle, WA 98102

Deposited on Behalf of: ZymoGenetics, Nic.

Identification Reference by Depositor:	**Patent Deposit Designation**
SP2/0 mouse myeloma x rat spleenocyte hybridoma: R2.1.1G11.1	PTA-6035
SP2/0 mouse myeloma x rat spleenocyte hybridoma: R2.1.12G7.1	PTA-6036
SP2/0 mouse myeloma x rat spleenocyte hybridoma: R2.1.13C8.1	PTA-6037

The deposits were accompanied by: __ a scientific description _ a proposed taxonomic description indicated above. The deposits were received June 3, 2004 by this International Depository Authority and have been accepted.

AT YOUR REQUEST: X We will inform you of requests for the strains for 30 years.

The strains will be made available if a patent office signatory to the Budapest Treaty certifies one's right to receive, or if a U.S. Patent is issued citing the strains, and ATCC is instructed by the United States Patent & Trademark Office or the depositor to release said strains.

If the cultures should die or be destroyed during the effective term of the deposit, it shall be your responsibility to replace them with living cultures of the same.

The strains will be maintained for a period of at least 30 years from date of deposit, or five years after the most recent request for a sample, whichever is longer. The United States and many other countries are signatory to the Budapest Treaty.

The viability of the cultures cited above was tested June 9, 2004. On that date, the cultures were viable.

International Depository Authority: American Type Culture Collection, Manassas, VA 20110-2209 USA.

Signature of person having authority to represent ATCC:

Marie Harris

Marie Harris, Patent Specialist, ATCC Patent Depository

Date: June 28, 2004

cc: Jennifer K. Johnson

ATCC

\# 122

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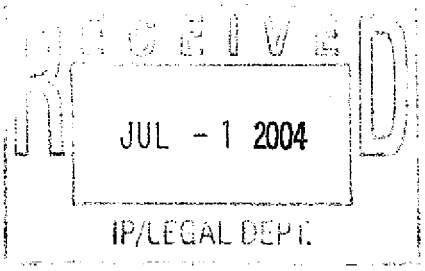
BUDAPEST TREATY ON THE INTERNATIONAL RECOGNITION OF THE DEPOSIT OF MICROORGANISMS FOR THE PURPOSES OF PATENT PROCEDURE

INTERNATIONAL FORM

RECEIPT IN THE CASE OF AN ORIGINAL DEPOSIT ISSUED PURSUANT TO RULE 7.3 AND VIABILITY STATEMENT ISSUED PURSUANT TO RULE 10.

To: (Name and Address of Depositor or Attorney)

ZymoGenetics, Inc.
Attn: Ursula Garrigues
1201 Eastlake Avenue East
Seattle, WA 98102



Deposited on Behalf of: ZymoGenetics, Nic.

Identification Reference by Depositor:	**Patent Deposit Designation**
SP2/0 mouse myeloma x rat spleenocyte hybridoma: R2.1.5F4.1	PTA-6024
SP2/0 mouse myeloma x rat spleenocyte hybridoma: R2.1.5H8.1	PTA-6025

The deposits were accompanied by: __ a scientific description _ a proposed taxonomic description indicated above. The deposits were received June 2, 2004 by this International Depository Authority and have been accepted.

AT YOUR REQUEST: X We will inform you of requests for the strains for 30 years.

The strains will be made available if a patent office signatory to the Budapest Treaty certifies one's right to receive, or if a U.S. Patent is issued citing the strains, and ATCC is instructed by the United States Patent & Trademark Office or the depositor to release said strains.

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The viability of the cultures cited above was tested June 9, 2004. On that date, the cultures were viable.

International Depository Authority: American Type Culture Collection, Manassas, VA 20110-2209 USA.

Signature of person having authority to represent ATCC:

Marie S Harris

Marie Harris, Patent Specialist, ATCC Patent Depository

Date: June 28, 2004

cc: Jennifer K. Johnson

ATCC

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BUDAPEST TREATY ON THE INTERNATIONAL RECOGNITION OF THE DEPOSIT OF MICROORGANISMS FOR THE PURPOSES OF PATENT PROCEDURE

INTERNATIONAL FORM

RECEIPT IN THE CASE OF AN ORIGINAL DEPOSIT ISSUED PURSUANT TO RULE 7.3 AND VIABILITY STATEMENT ISSUED PURSUANT TO RULE 10.

To: (Name and Address of Depositor or Attorney)

ZymoGenetics, Inc.
Attn: Jeremy F. Capalungan
1201 Eastlake Avenue East
Seattle, WA 98102

Deposited on Behalf of: ZymoGenetics, Nic.

Identification Reference by Depositor:	**Patent Deposit Designation**
SP2/0 mouse myeloma x rat spleenocyte hybridoma: R2.1.15E2.1 Z13,157	PTA-6038
SP2/0 mouse myeloma x rat spleenocyte hybridoma: R2.1.16C11.1 Z13,155	PTA-6039
SP2/0 mouse myeloma x rat spleenocyte hybridoma: R2.1.18C8.1 Z13,156	PTA-6040

The deposits were accompanied by: __ a scientific description _ a proposed taxonomic description indicated above. The deposits were received June 3, 2004 by this International Depository Authority and have been accepted.

AT YOUR REQUEST: X We will inform you of requests for the strains for 30 years.

The strains will be made available if a patent office signatory to the Budapest Treaty certifies one's right to receive, or if a U.S. Patent is issued citing the strains, and ATCC is instructed by the United States Patent & Trademark Office or the depositor to release said strains.

If the cultures should die or be destroyed during the effective term of the deposit, it shall be your responsibility to replace them with living cultures of the same.

The strains will be maintained for a period of at least 30 years from date of deposit, or five years after the most recent request for a sample, whichever is longer. The United States and many other countries are signatory to the Budapest Treaty.

The viability of the cultures cited above was tested June 9, 2004. On that date, the cultures were viable.

International Depository Authority: American Type Culture Collection, Manassas, VA 20110-2209 USA.

Signature of person having authority to represent ATCC:

Marie Harris

Marie Harris, Patent Specialist, ATCC Patent Depository

Date: June 28, 2004

cc: Jennifer K. Johnson

#130

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BUDAPEST TREATY ON THE INTERNATIONAL RECOGNITION OF THE DEPOSIT OF MICROORGANISMS FOR THE PURPOSES OF PATENT PROCEDURE

INTERNATIONAL FORM

RECEIPT IN THE CASE OF AN ORIGINAL DEPOSIT ISSUED PURSUANT TO RULE 7.3 AND VIABILITY STATEMENT ISSUED PURSUANT TO RULE 10.2

To: (Name and Address of Depositor or Attorney)

ZymoGenetics, Inc.
Attn: Ursula Garrigues
1201 Eastlake Avenue E
Seattle, WA 98102

Deposited on Behalf of: ZymoGenetics, Inc.

Identification Reference by Depositor:	**Patent Deposit Designation**
SP2/0 mouse myeloma x rat spleenocyte hybridoma: R2.1.21G8.2	PT-6111

The deposit was accompanied by: __ a scientific description _ a proposed taxonomic description indicated above.

The deposit was received June 24, 2004 by this International Depository Authority and has been accepted.

AT YOUR REQUEST: X We will inform you of requests for the strain for 30 years.

The strain will be made available if a patent office signatory to the Budapest Treaty certifies one's right to receive, or if a U.S. Patent is issued citing the strain, and ATCC is instructed by the United States Patent & Trademark Office or the depositor to release said strain.

If the culture should die or be destroyed during the effective term of the deposit, it shall be your responsibility to replace it with living culture of the same.

The strain will be maintained for a period of at least 30 years from date of deposit, or five years after the most recent request for a sample, whichever is longer. The United States and many other countries are signatory to the Budapest Treaty.

The viability of the culture cited above was tested June 29, 2004. On that date, the culture was viable.

International Depository Authority: American Type Culture Collection, Manassas, VA 20110-2209 USA.

Signature of person having authority to represent ATCC:

Marie Harris

Marie Harris, Patent Specialist, ATCC Patent Depository

Date: July 29, 2004

cc: Jennifer K. Johnson